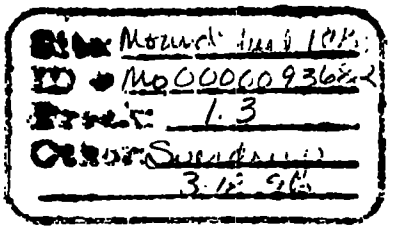

MAR 18 1996

MEMORANDUM

SUBJECT: *Revised* Field Sampling Plan, Mound Street PCB Site
St. Louis, Missouri

FROM: Douglas J. Brune, Environmental Engineer, ENSV

THRU: Ernest L. Arnold, Regional Quality Assurance Manager

TO: Dave Crawford, Site Assessment Manager, SACR/SUPR

I reviewed the subject document, prepared by the ARCS contractor, Sverdrup Corporation, and dated March 4, 1996, for adequacy of addressing comments provided February 26, 1996, as a result of the review of the January 23, 1996,-version of the subject document. The responses submitted by Sverdrup appear to adequately address these comments. However, due to the nature of these responses, additional concerns have surfaced. Approval is being recommended with the following conditions:

1. Response to comment #7. Analytical results and the original field sheets are provided to the EPA Project Manager. If quality control data is desired, please contact the RLAB Branch Chief, Andrea Jirka.

2. Table 4-1. The requested detection limit for the individual PCB Aroclor is less than the level of interest identified for "PCB" on the second page of the analytical services request (ASR) form is 4.5 Fg/L. However, the sum of these individual detection limits is 8 Fg/L, which is greater than 4.5 Fg/L.

3. Table 4-2. Two 80-ounce amber jugs are needed for each semi-volatile-in-water and PCBs-in-water sample. The sampling supplies request (SSR) form was modified accordingly.

3/14/96
DJB

4. Analytical Services Request (ASR) form.

a. The special group for PCBs-in-water is W24.

b. A footnote to the levels of interest on the ASR form explains that "analytes with no value (- - -) will have the requested detection limit as a benchmark value". For your information, the requested detection level for volatiles and semi-volatiles in water (10 Fg/L) is not achievable for 2-butanone, 2-hexanone, and 4-nitroaniline.

c. It is not clear why nitric acid was requested. Since metals-in-water samples are not of concern, this will be deleted.

If you have any questions, please contact me at x5180.

R7QAMO Activity Number: 96-QQ1CY
R7QAMO Document Number: 96101

MAR 1 1996

MEMORANDUM

SUBJECT: Field Sampling Plan, Mound Street PCB Site, St. Louis, Missouri

FROM: Douglas J. Brune, Environmental Engineer, ENSV

THRU: Ernest L. Arnold, Regional Quality Assurance Manager

TO: Dave Crawford, Site Assessment Manager, SACR/SUPR

I reviewed the subject document, prepared by the ARCS contractor, Sverdrup Corporation, and dated January 23, 1996, according to Region 7 ENSV's Standard Operating Procedure (SOP) 1330.2, "Review of Quality Assurance Related Documents."

There appear to a few items relative to data quality objectives, sample locations, "action levels," and the associated analytical request that should be addressed prior to approval. Please call me upon receipt of this message to discuss how these can be addressed.

1. Signature approval page. The Region 7 QA Manager is Ernest L. Arnold.

2. Previous Investigations and Waste Characteristics, §2.3, page 2-8.

a. The first bullet identifies the conclusions of the March 21, 1994, PA [Preliminary Assessment], as submitted by the Missouri Department of Natural Resources.

> The conclusions of the PA report indicate that a threat from the groundwater pathway is very unlikely, a release to the Mississippi River appears likely, an exposure through the soil pathway is low and an exposure through the soil pathway is also low.

2/27/96 DJB

2/27/96 SA

It is not clear the "threat" being referred, as well as how a release to the Mississippi River could happen.

Note: It is not clear the reason for describing investigations at the site in reverse-chronological order.

b. The more routine units for PCBs-in-oil samples are mg/**kg**, as opposed to mg/**L**. The former implies a weight of the sample was extracted and analyzed, while the latter implies a volume of sample was extracted and analyzed. See the discussion provided on the PA/SI on page 2-10.

3. Table 4-1, pg. 4-2--4-3. "Levels of concern" should be identified for the soil and water samples in order to evaluate the adequacy of the "requested detection limits."

Note: According to §4.1, groundwater samples will be compared to current MCLs [Maximum Contaminant Levels] and MCLGs [Maximum Contaminant Level Goals]. This does not agree with the levels of detection requested in this table.

If MCLs/MCLGs are of concern, it is suggested the authors indicate specific analytes of concern prior to method selection. For example, benzo(a)pyrene can be determined by EPA Method 8270; however, analyses by high pressure liquid chromatography (HPLC) is necessary for comparisons to MCLs.

Also, some MCLGs are "0," which cannot be attained analytically.

4. Sampling Activities, Section 4.0, page 4-1.

a. The authors state that oil samples collected on two separate occasions from the basement of the Mound Street PCB Site building showed no detectable PCB contamination; this appears to the justification for not re-sampling. The authors should provide more details, i.e., the sample location (floor or equipment), the entity that collected the sample and/or conducted the extraction/analyses, and the level of detection.

b. The authors define background in the third paragraph as "ambient concentration of a hazardous substance and includes [a] naturally occurring concentrations, [b] concentrations from man-made sources other than the site being evaluated, and [c] concentrations from the site."

Is this the definition of choice? If so, it is not clear how contamination can be attributed to the site if the "background" samples is already contaminated.

Note: Identification of these background concentrations may address the non-aqueous portion of comment #3.

5. Figure 8. It appears the proposed sample locations are concentrated in the eastern portion the "site", although the objective of the SSI [Screening Site Inspection] is applicable to the entire site.

Note: It may be appropriate to better define the "site" boundaries in the figures, i.e., use of double lines.

6. Table 4-2, page 4-7.

a. Page 4-6. The rationale, i.e., "identify contamination in aquifer", is vague. More details should be provided. What are the depths of the off-site monitoring wells, as well as the proposed depth of the on-site Geoprobe boring?

b. Page 4-7. The "source area" is not clearly defined. How are sampling results to be attributed to the site (Mound Street PCB site), as opposed to the neighboring facilities, i.e, the former Laclede facility or Apex Oil Company?

7. Quality Assurance/Quality Control (QA/QC), Section 4.5.

a. Page 4-9. The authors specify DQO [Data Quality Objectives] Level III data will be required for this investigation. The authors correctly provide a definition for DQO Level III, i.e., equivalent to EPA's CLP-RAS [Contract Lab Program-Routine Analytical Services], without the rigorous documentation. The authors need to identify what it means by "DQO Level III" data, i.e., what documentation will not be required.

Note: The authors state (in the next paragraph) that the Region 7 EPA Lab will validate data per SOP 1610.3B; this SOP is CLP equivalent, with the rigorous documentation.

b. Page 4-11. The authors state precision requirements for this investigation will be 20% for groundwater and 35% for

soil samples. It is not clear what precision is being specified, i.e, analytical or overall.

Note: Given that Table 4-4 does indicate that field duplicate samples will be collected and that the lab will validate the analytical precision via R7ENSV SOP; therefore, it is being assumed that these requirements apply to field duplicate samples.

c. The authors state that the validation per this SOP will address the precision, accuracy, and completeness of the data reported. Completeness is not assessed by the Region 7 Lab, rather the EPA project manager.

d. The authors propose a 90% completeness objective for this investigation and further elaborate that one groundwater samples and three subsurface soil sample are required to complete this investigation. Given this statement, it is not clear why the authors request analyses on 8 soil and 6 water samples on the ASR form.

Note: On page 4-12, the authors state that failure to meet the 90% completeness objective will result in qualification of the data, nonuse of the data, or re-sampling. It is not clear what is intended here?

If you have any questions, please contact me at x5180.

R7QAMO Activity Number: 96-QQ1CY
R7QAMO Document Number: 96077